

connector receptacle where contacts for high-speed differential signals have been omitted. In these and other embodiments of the present invention, the contacts for the high-speed differential signals can be included. In these and other embodiments of the present invention, other contacts can be included or omitted.

[0056] In these and other embodiments of the present invention, center plate **216**, ground pads **244**, contacts **222**, ground contacts **224**, backplate **245**, side tabs **218**, endcap **150**, and other conductive portions of connector receptacle **140** can be formed by stamping, metal-injection molding, machining, micro-machining, 3-D printing, forging, lathing, coining, deep drawing, or other manufacturing process.

[0057] In these and other embodiments of the present invention, center plate **216**, ground pads **244**, contacts **222**, ground contacts **224**, backplate **245**, side tabs **218**, endcap **150**, and other conductive portions of connector receptacle **140** can be formed of stainless steel, steel, copper, copper titanium, palladium nickel, phosphor bronze, or other material or combination of materials. Center plate **216**, ground pads **244**, contacts **222**, ground contacts **224**, backplate **245**, side tabs **218**, endcap **150**, and other conductive portions of connector receptacle **140** can be plated or coated with nickel, bright nickel, gold, or other material.

[0058] In these and other embodiments of the present invention, housing **230**, housing **240**, housing **250**, and other nonconductive portions and other structures of connector receptacle **140** can be formed using injection or other molding, 3-D printing, machining, or other manufacturing process.

[0059] In these and other embodiments of the present invention, housing **230**, housing **240**, housing **250**, and other nonconductive portions and other structures of connector receptacle **140**, can be formed of silicon or silicone, rubber, hard rubber, plastic, nylon or other thermoplastic, polymers, such as liquid-crystal polymers (LCPs), ceramics, or other nonconductive material or combination of materials.

[0060] Embodiments of the present invention can provide connector receptacles that can be located in, and can connect to, various types of devices, such as portable computing devices, tablet computers, desktop computers, laptops, all-in-one computers, wearable computing devices, cell phones, smart phones, media phones, storage devices, portable media players, navigation systems, monitors, power supplies, video delivery systems, adapters, remote control devices, chargers, and other devices. These connector receptacles can provide interconnect pathways for signals that are compliant or compatible with various standards such as one of the Universal Serial Bus (USB) standards including USB Type-C, High-Definition Multimedia Interface® (HDMI), Digital Visual Interface (DVI), Ethernet, DisplayPort, Thunderbolt™, Lightning™ Joint Test Action Group (JTAG), test-access-port (TAP), Directed Automated Random Testing (DART), universal asynchronous receiver/transmitters (UARTs), clock signals, power signals, and other types of standard, non-standard, and proprietary interfaces and combinations thereof that have been developed, are being developed, or will be developed in the future. Other embodiments of the present invention can provide connector receptacles that can be used to provide a reduced set of functions for one or more of these standards. In various embodiments of the present invention, these interconnect paths provided by

these connector receptacles can be used to convey power, ground, signals, test points, and other voltage, current, data, or other information.

[0061] The above description of embodiments of the invention has been presented for the purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise form described, and many modifications and variations are possible in light of the teaching above. The embodiments were chosen and described in order to best explain the principles of the invention and its practical applications to thereby enable others skilled in the art to best utilize the invention in various embodiments and with various modifications as are suited to the particular use contemplated. Thus, it will be appreciated that the invention is intended to cover all modifications and equivalents within the scope of the following claims.

1. A connector receptacle comprising:

a tongue comprising a center plate;

a first plurality of signal contacts on a top side of the tongue; and

a first plurality of ground contacts on the top side of the tongue, wherein each ground contact includes a first portion extending from a housing to a first end near a front edge of the tongue, each ground contact folded such that a second portion of the ground contact extends towards the housing under the first portion of the ground contact, the ground contact further comprising a connecting plate attached to the second portion of the ground contact and extending from the second portion of the ground contact in a direction parallel to the front edge of the tongue,

wherein each connecting plate in the first plurality of ground contacts is attached to the center plate.

2. The connector receptacle of claim 1 wherein the connector receptacle is a universal serial bus type-C connector receptacle.

3. The connector receptacle of claim 2 wherein each connecting plate of the first plurality of ground contacts is attached to a top surface of the center plate.

4. The connector receptacle of claim 3 wherein the connecting plate for each ground contact is laser welded to the center plate.

5. The connector receptacle of claim 4 further comprising:
a second plurality of signal contacts on a bottom side of the tongue; and

a second plurality of ground contacts on the bottom side of the tongue, wherein each ground contact includes a first portion extending from the housing to a first end near a front edge of the tongue, each ground contact folded such that a second portion of the ground contact extends towards the housing over the first portion of the ground contact, the ground contact further comprising a connecting plate attached to the second portion of the ground contact and extending from the second portion of the ground contact in a direction parallel to the front edge of the tongue,

wherein each connecting plate in the second plurality of ground contacts is attached to the center plate.

6. The connector receptacle of claim 5 further comprising an overmold formed over the front edge of each of the first plurality of ground contacts, the front edge of each of the second plurality of ground contacts, the connecting plate of